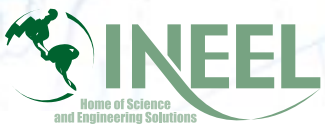
IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY

Defining Accelerated Pathways to Success

ROADMAPPING

Using the roadmapping process to overcome barriers and find the most cost-effective and timely technical and programmatic solutions



What is Roadmapping?

Roadmapping is a disciplined process for identifying the activities and schedules necessary to manage technical (and other) risks and uncertainties associated with solving complex problems.

Roadmapping gets results...

FASTER—*Savannah River Site (SRS) resolved salt disposition viability issues in 10 months versus 36 months.*

CHEAPER—*Idaho National Engineering and Environmental Laboratory (INEEL) reduced calcine R&D costs from $105 million to $25 million.*

BETTER—*Hanford resolved cesium (Cs) transport issues in subsurface soils, supporting credible risk assessment and closure planning.*


Roadmapping supports good decision making.
Mount Surprise
Highlands Expressway
Contingency Drive
Slide Mountain
Quagmire Marsh
Lost River
Uncertainty Gap
Information Dearth Valley
Regulatory Mountains
Dead End Beach
Big Curve City
Straightshot Expressway
Lake Wo-B-Me
Roadmapping helps anticipate obstacles and select the most efficient route through complex issues and alternatives to attain the desired result.
Successful Project Completion

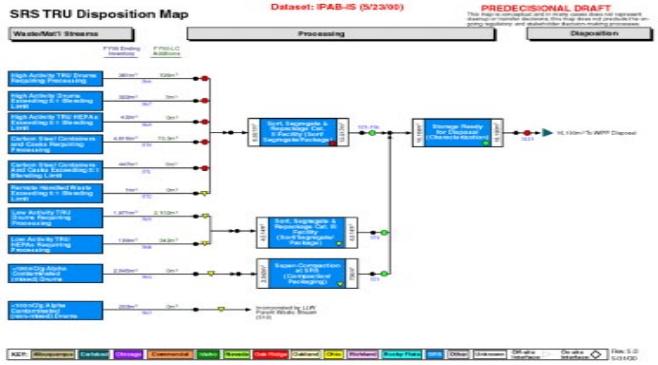
Roadmapping Toolbox

A set of effective tools has been developed to facilitate use of the roadmapping process to provide quick, accurate development of accelerated pathways to successful project completion. This set of tools, referred to as the "Roadmapping Toolbox," is detailed at right. Developing these tools directly supports Secretary Abraham's call to action to "help reduce costs and schedules, and better employ new technologies."

These tools were created and used to increase the speed of developing a roadmap and simplify the understanding of what needs to be done and when.

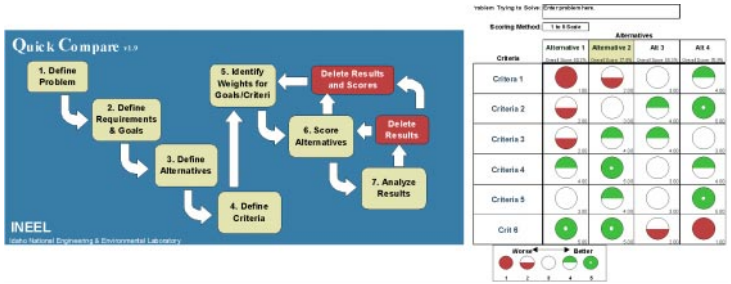
"We need to find ways to continue progress and meet our commitments more efficiently and at a lower cost... to identify steps to strengthen project management, implement contracting strategies that help reduce costs and schedules, better employ new technologies, and sequence work more effectively."

Spencer Abraham
Secretary, U.S. Department of Energy



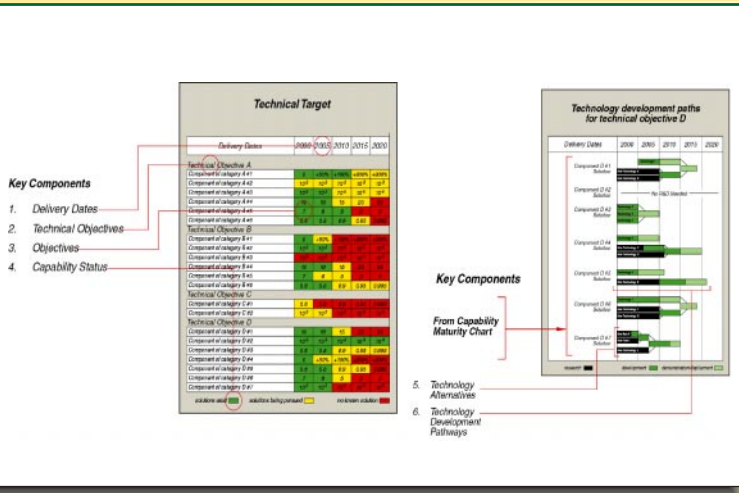
Disposition Maps

Disposition (pathway to end state) maps are typically the first step in assessing who the players are, the scope of work and the distribution of the problems. These types of maps can be effectively utilized to identify key functions and define the current state and the "desired state."



Quick Compare

This tool allows speedy comparison of several alternatives against multiple goals and criteria, and it allows evaluation of uncertainties that must be resolved before making a selection.



RYG Tool

This tool was developed for internal use by the group to create "mini-roadmaps." It is named for its use of red, yellow, and green to denote the status of the functions and capabilities needed now and in the future, and the related enabling activities.

Why should I use roadmapping?

Roadmapping saves me time and money!

Roadmapping has proven to be very beneficial!

Roadmapping helps me understand what I'm really up against and figure out the best way to go forward!

Roadmapping significantly reduces the fog, revealing the best path forward.

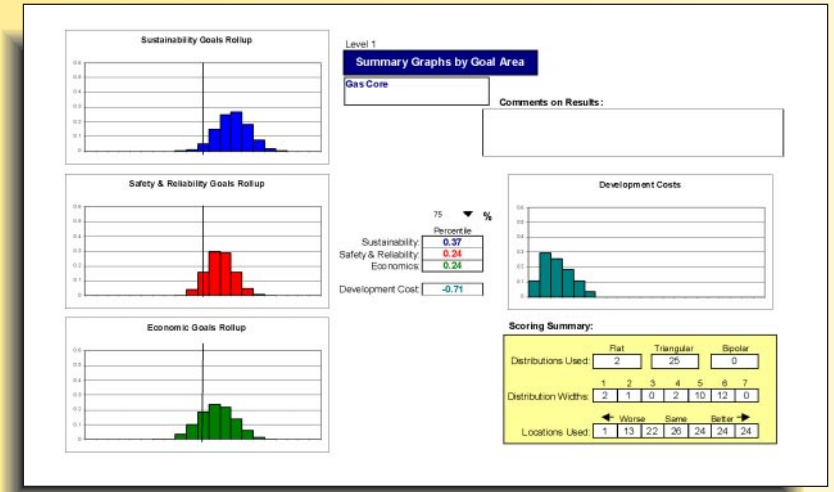
Roadmapping helps me gain consensus, collaboration, and cooperation from the various project participants and stakeholders!

Roadmapping helps to keep me out of trouble!

I need roadmapping because I have significantly risky issues!

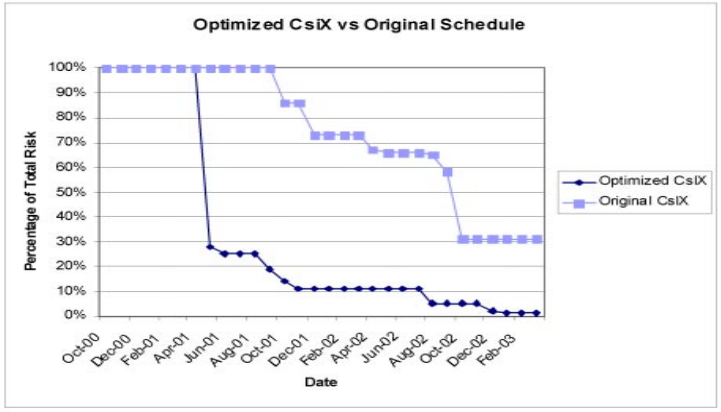
Roadmapping makes me look good in management's eyes!

Roadmapping identifies how to solve my problems, which increases the morale and excitement of the workforce (hence, increasing productivity)!



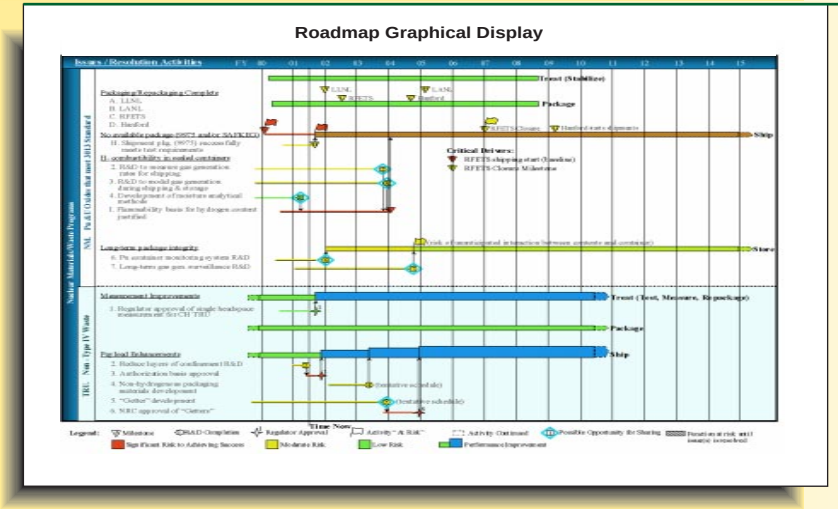
DWU Tool

This DWU tool is used to summarize various criteria by goal area. It is known as the Decisions With Uncertainties (DWU) tool because it compares and combines not just the median values of decision criteria, but also the uncertainty reflected in the scores.



RRV Tool

Risk Reduction Visualization (RRV) is a tool that takes optimized schedule data over time and converts it into "waterfall" diagrams that show how risk reduction is achieved for various alternatives, compared to the baseline.



Final Roadmap

This is an example of the result of the roadmapping process a clear depiction of:

1. The functions and needed capabilities (enablers) to successfully accomplish the functions;
2. The timing and needed completion dates for performing this work, and;
3. The status of each of the functions and enablers to quickly reveal where management attention is needed or where contingency planning is warranted.

Accomplishments of the roadmapping team

- Prepared Roadmapping Guidance Document
- Roadmaps supported:
  - INEEL Voluntary Consent Order Tanks
  - Complex-wide Vadose Zone
  - Complex-wide Hydrogen Gas Generation
  - Complex-wide Long-Term Stewardship
  - Generation IV Nuclear Energy Systems Roadmap
  - SRS HLW Salt Disposition Alternatives
  - INEEL HLW Calcine Alternatives
  - INEEL Sodium Bearing Waste Treatment Alternatives.

"The INEEL's Roadmapping Support Group really delivered. The custom decision support tools they created got rave reviews from our international roadmap team, and greatly amplified the efforts of our technical working groups."

Dr. Ralph Bennett
Co-chair, Roadmap Integration Team, Generation IV Nuclear Energy Systems

For more information

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